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Canadian Spiders, II

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NEW CANADIAN SPIDERS.

Second Paper.

The following paper is a continuation of one published in these Transactions in 1894 and like that is a description of a number of new species from various parts of Canada and from several collectors. The writer has made collections in the Rocky Mountains and across western Canada in two visits in 1905 and 1914. Mr. N. B. Sanson of the Banff Museum has made a small collection from the neighborhood of Banff. On the eastern side of Canada Dr. C. W. Townsend and Miss E. M. Esterbrook of Boston and Messrs. Leng and Englehart of New York have collected in Labrador and Newfoundland. In Maine and New Hampshire several species have been discovered known before only in western Canada. Several species are found to range across Canada from Labrador to the Rocky Mountains and the Pacific coast and many others are known in the Rocky Mountains and on the eastern coast without the connection between them having been discovered. *Tmeticus armatus*, Banks, described originally from Manitoba, is now known both in the Rocky Mountains and in Maine and New Hampshire. *Lophocarenum alpinum* of the White Mountains has been found at Banff. *Theridion zelotypum*, common in Maine, has been traced westward from Lake Superior in bogs along the edge of the spruce forest to the headwaters of the Athabasca River in the Rocky Mountains. *Linyphia nearctica*, (*humilis*) described from Laggan, is known to live all over eastern Maine and on the tops of the White Mountains and Green Mountains in New Hampshire and Vermont. *Theridion sexpunctatum* has been found at several points across Canada to Vancouver and Sitka on the west coast.

Theridion zelotypum, Emerton, Trans. Conn. Acad., 1882.

This species is now known all over Maine from Casco Bay to Fort Kent on the northern boundary, but has not yet been found south or west of Casco Bay. It was not found in a week's collecting around the Mt. Washington Glen from 1500 feet to the mountain top. Its westward range has been extended from Winnipeg to Prince Albert, Athabasca Landing and Jasper, Alberta, 4000 feet high in the Rocky Mountains on the headwaters of the Athabasca River. At all these places it lives as in Maine on low branches of spruce trees in open situations, but always near water or in bogs. All those found at Jasper and part of those at Athabasca Landing had the dorsal markings in a different pattern from those commonly found farther east. In these spiders the usual herring-bone middle stripe is entirely absent and the darker markings at the sides form two rows of spots with white lines behind them, in some cases entirely across the back. Fig. 1a. Pl. II. This species was not found on the prairie at Saskatoon or Edmonton, nor in the mountains around Banff or Laggan, nor in the Yoho Valley.

Theridion sexpunctatum, Emerton, Trans. Conn. Acad., 1882.

This species is now known across the continent from Maine to the Rocky Mountains, Vancouver and Sitka. The markings are usually very uniform, the thorax striped and margined with dark gray, and the abdomen marked with six or eight white spots in pairs on larger gray areas of irregular shape; but among some collected at Vancouver there are great variations, one female having the gray areas on the abdomen absent and the white spots without any regular arrangement, while another has the front half of the abdomen covered with a large dark spot like that of *Enoplognatha marmorata*. Figs. 2, 2a, 2b, 2c. Pl. II.

Tmeticus reticulatus. new sp.

Male 2 mm. long; legs and cephalothorax dull yellow, abdomen gray with faint light markings across the hinder half. The front

middle eyes are small, near together and half-way between the mandibles and the top of the head. The upper middle eyes are farther apart than they are from the lateral eyes and between and below them is a cluster of hairs directed upward. On the front of the under side of the abdomen, between the lungs, the surface is marked with fine lines arranged in hexagons like a honeycomb. The male palpi have the tibia extending on the upper side over the tarsus with a short tooth turning downward and outward at the end. Figs. 3, 3a, 3b. Pl. II.

Lake Louise, Laggan, sifted from moss.

Tmeticus obtusus. new sp.

This is a little translucent spider, 1.5 mm. long, related to *T. entomologicus*, Em., Trans. Conn. Acad., 1911, *T. acummatus*, Em., Bull. Am. Museum, N. Y., 1913, and *T. digitatus*, Em., from Ithaca, N. Y., Journal N. Y. Ent. Soc., 1914. The plainest difference, as in all these species, is in the shape of the tibia of the male palpus. In this species the tibia is widened at the end, and has a shallow notch on the under side. On the upper side it extends over the tarsus in a flat process as wide as the patella, square at the end, and with a slight tooth in the middle of the outer side. Fig. 4. Pl. II. The palpal organ is very simple as in the other species. The eyes have the two middle pairs far apart, the upper pair about their diameter from each other, and the lower pair nearly touching each other.

Jasper, Alberta, in moss near the pond. Lake Louise, 1905.

Lophocarenum dentipalpis. new sp.

3 mm. long. Pale with head and ends of palpi a little darkened with gray. The head is elevated behind the eyes and has two humps rounded in front and extending forward at the sides of the upper middle eyes and a little beyond them. Between the humps are scattered long black hairs directed forward and between the upper and lower middle eyes are two rows of hairs directed outward. The head is narrow and rounded in front, and extends forward beyond the mandibles. The male palpi are large and complicated. The patella is longer than wide, and curved downward. The tibia is narrow at the base, from which it spreads in all directions over the tarsus. On the upper side of the tibia is a small black tooth attached on the inside and extending beyond the

rim over the tarsus. The tarsal hook is small and simple. The tube is long and slender, coiling in two turns around the end of the palpal organ. Figs. 9, 9a. Pl. II.

Goat Mountain, Jasper, Alberta, Canada, in the upper spruce trees in moss.

Lophocarenum alpinum.

Dismodicus alpinus, Banks, Can. Ent., 1896.

Lophocarenum alpinum, Em., Trans. Conn. Acad., 1909.

One male of this was found in moss in the woods on Sulphur Mountain, below the Alpine Club House. Fig. 7, Pl. II, shows the peculiar head and palpus. This species has been found three times on the upper part of Mount Washington, New Hampshire.

Lophocarenum erectum. new sp.

2 mm. long. Legs and palpi orange, cephalothorax brown, abdomen gray. Head of male elevated as in *pallidum* and *cuneatum*, with the upper middle eyes on top of the elevation turned a little forward. The tibia of the male palpus has a long hook, pointed outward over the back of the tarsus, as in *castaneum*, and on the upper side of the tibia is a slender process extending straight upward. Figs. 8, 8a. Pl. II.

Two males from moss in spruce woods near camp at Tackakaw Falls in Yoho Valley, B. C.

Gongylidium tuberosum. new sp.

3.5 mm. long. Brown, resembling *G. (Tmeticus) brunneus* and *maximus*, and in size and color *Pedanosthethus*. The head is low and the eyes small, the front middle pair one-half smaller than the upper middle. The mandibles have the claw groove toothed on both sides, but have no tooth on the front. The male palpi are short and stout, as in the related species. The tibia is but little modified in shape, and not widened at the end. The tarsus is round, with a notch in the edge over the tarsal hook. The hook is large and complicated, Fig. 5a, 5b, Pl. II, at the end turning sharply outward.

The female is of the same size as the male. The epigynum has a characteristic shape in three narrow lobes. Fig. 5. Pl. II.

Battle Harbor, Labrador, by C. W. Leng of N. Y., sifting moss for beetles.

Gongylidium canaliculatum. new sp.

3 mm. long, pale brown like *brunneus* and *maximus*, and resembling these species. The eyes are low and the head a little elevated behind them, more in the male than in the female. The mandibles have a row of small teeth on each side of the claw, but not the tooth on the front. The male palpi have the tibia widened at the end with a half-round notch above, from which a groove extends along the outer edge of the tarsus, ending in a notch. Fig. 6. Pl. II. The tarsal hook is simple, slightly flattened and curved in a quarter circle at the end. The epigynum shows two round opaque spermathecae at the sides and nearer the middle two dark ridges converging backward. Fig. 6a. Pl. II.

Prince Albert, Canada, from moss in a spruce bog, Aug. 24, 1914.

Bathyphantes arborea. new sp.

2.5 mm. long. Cephalothorax and legs pale yellow-brown, without any markings. Abdomen light on the back with a black middle stripe half its length and a black stripe on each side. The markings of the hinder half are small, usually disconnected, and sometimes absent. The light part of the abdomen is covered with opaque lighter spots showing through the skin. Fig. 10. Pl. II. The under side of the abdomen is dark gray with a light area on each side. The sternum is also dark gray, and the legs and maxillae pale. The epigynum is of the usual kind, projecting but little from the surface of the abdomen. Fig. 10b. Pl. II. The male palpi are small and compact, the tarsus and tarsal hook resembling somewhat those of *B. furcatus* from the Sandwich Mountains, New Hampshire. Figs. 10c, 11d. Pl. II.

Contrary to the habits of most of the genus, this spider lives in the driest of places in spruce trees high above the ground, in company with *Linyphia phrygiana*; Banff, Laggan, Yoho Valley up to 7000 feet.

Bathyphantes occidentalis. new sp.

2.5 mm. long. Cephalothorax pale yellow with dark edges and an indistinct dark square in the middle. The legs are pale with dark rings at the ends of the joints and middle of the tibia, the markings stronger in the female than the male. The abdomen has a wide middle band made up of transverse spots connected by a

middle line. At the sides of the middle band are pale stripes indented on the outer side. On the under side the abdomen is black, broken by a row of irregular spots on the sides. Fig. 11. Pl. II.

The palpus of the male is of middle size with the tarsus elongated and furnished with a sharp curved process at the base, somewhat as in *B. furcatus*, Em., Trans. Conn. Acad., 1913. On the outer side is a smaller process near the base of the tarsal hook, as in several species. The tarsal hook is short and recurved, with a slender point turning at a right angle near the end. Fig. 11a.

The epigynum projects outward from the surface of the abdomen as in *furcatus*, but is not as large as in that species.

Vancouver, Canada, 2 males, 1 female.

Microneta pinnata. new sp.

Male 2 mm. long, without any markings; legs and cephalothorax pale yellow and abdomen gray. The head is high and extends forward as far as the front of the mandibles. The male palpi are large and complex. The tibia is widened on the under side. The horn of the tarsus is straight and at a right angle to the axis of the palpus. It has on the end a group of flat hairs cut at the end into two or three teeth. Fig. 1. Pl. III. The tarsal hook is slender and curved backward, with two points at the base and two at the end. The tube of the palpal organ is long and slender, coiled one and a half times, and supported by a thin flat appendage.

Prince Albert, Canada.

Microneta flava. new sp.

2 mm. long, pale, and without markings; male and female of the same size and general appearance. The male palpi are large and but little darker in color than the rest of the body. The tarsal hook is curved in several different directions, shown in the two figures. At the base it is divided into two branches, the lower one slightly turned outward, and along the basal edge is a ridge, also turned outward. The end of the hook is turned at a right angle to the base, pointed at the tip, and with a ridge on the outer side, ending in a low tooth. Figs. 2a, 2b. Pl. III. The epigynum is of the usual kind, folded and projecting its diameter from the surface of the abdomen. Fig. 2.

One male and female sifted from moss near Lake Louise, Laggan.

Clubiona obtusa. new sp.

Male 4 mm. long and entirely pale. Head slightly narrower than the thorax. Mandibles half as long as the cephalothorax with two very short teeth above the claw and none below it. Fig. 4. Pl. III. The male palpi have a wide and flat process of the tibia extending a third its length over the tarsus on the outer side. Figs. 4b, 4c. Pl. III. The tarsus is oval, twice as long as wide, and the palpal organ resembles that of *crassipalpus*.

The female found at the same place has the mandibles a little shorter, with the two teeth over the claw a little larger, and four very small teeth under the claw. The epigynum resembles that of *rubra*.

Banff, Aug., 1914.

Singa campestris. new sp.

Cephalothorax 2 mm. long. Abdomen of male 2 mm. Abdomen of female 3 mm. or more. The cephalothorax is orange yellow, darker in males, and in both sexes with a distinct black patch around the eyes and backward about a quarter the length of the cephalothorax. In the females the abdomen has three light stripes varying in length and width. Fig. 3. Pl. III. In the male there are usually no stripes. In both the sexes the ends of the abdomen are darker than the middle, sometimes forming a definite pair of black spots at each end. The legs are orange yellow without any markings. The middle eyes are less than their diameter apart, but not as close as in *S. keyserlingi*.

In the male the second tibia is slightly thicker than the first and the spines on the inner side are thickened and short, not much over half the diameter of the tibia. On the first tibia the spines on the inner side are somewhat thickened and about as long as the diameter of the tibia. Fig. 36. Pl. III. Kenora, Edmonton, swept from long grass near ditches.

Pardosa albiceps. new sp.

Male 5 mm. long. Cephalothorax black with narrow white median stripe, widened slightly in front of the dorsal groove and narrowed from there to the eyes, where it widens so as to cover the whole top of the head between the eyes. There are very narrow marginal white stripes. The abdomen is dark with gray hairs and a light central marking divided indistinctly into a

middle row of spots and pairs of smaller spots at the sides. Fig. 5. Pl. III.

The legs are pale with light gray bands. The femora are all pale with longitudinal stripes above and broken bands at the sides, two in the middle and one at each end of the joint.

The male palpi have the femur pale with dark stripes above like the legs. The patella white, tibia black, and tarsus black with a white tip. The tibia and tarsus are large and have long black hairs like *glacialis*. Fig. 5b. Pl. III.

The front of the head, mandibles, maxillae and sternum are black, the coxae pale, and the under side of the abdomen gray.

The female has the legs much more strongly banded than the male. The stripe on the cephalothorax is more widened in front of the groove, and does not have the narrow line to the eyes. The hairs on the head are finer and not as white as in the male. The dorsal markings of the abdomen are more distinct than in the male and the anterior light spot more prominent. The epigynum is long and narrow, the surrounding hard parts deeply indented at the sides. Fig. 5a. Pl. III.

Spray River, B. C., N. B. Sanson, July 4, 1914.

Pellenes sansoni. new sp.

Two males and a female have been received from the Banff Museum. One male and the female are dried, and preserve their markings and colors better than in alcohol.

The face of the male, Fig. 6, Pl. III, is marked with two bright red spots at the sides and partly over the front middle eyes. A white stripe partly surrounds the lateral front eyes and extends back to the dorsal eyes. A white middle stripe extends down between the front middle eyes and backward as far as a line between the dorsal eyes. Between the white stripes are two tufts of long black hair pointed up and forward. Just below the front eyes a few long orange-colored hairs turn toward the middle line and cross at the ends. Below the eyes the color is black, with scattered white faintly iridescent scales in the middle, becoming closer at the sides and forming two white patches of hairs. The edge of the clypeus is orange-colored. The mandibles are striped with three bands of white hairs between which the mandible is smooth and black. The palpi are brown with light orange or flesh color hairs at the base and on the outer side, and long white hairs on the inner side and especially toward the ends. The front

legs differ only slightly from the others. The femora are light in front and dark behind. The light hairs white or light flesh color. Below the white color is a strip of orange marked with a few red hairs. The other joints of the legs are light above and below, and darker in front and behind. The second legs are like the first, but not as strongly marked, and the other legs are without definite stripes, but generally light above and below, with white or light flesh-colored scales and scattered black hairs.

The cephalothorax behind the eyes is black with a narrow white margin. The abdomen is black with an indistinct white basal line and a broken white middle stripe on the hinder half. Fig. 6a. Pl. III. The whole under surface is white or light gray, which shows from above along the sides of the abdomen.

The female is generally lighter than the male, with less black and more light flesh-colored gray. The face, Fig. 6c, Pl. III, has the whole area below the front middle eyes white, which narrows toward the sides and extends backward as a narrow white line along the edge of the cephalothorax. Above the eyes is a light gray area which extends backward as two wide stripes the whole length of the cephalothorax. Over each front middle eye is a small black spot. The sides and the middle of the cephalothorax are black. The mandibles are striped less distinctly than in the male with white and black. The palpi are covered with light gray scales and long gray hairs. The legs are all gray, mixed with fine black hairs. The abdomen has a light basal stripe, stripes at the sides, and a distinct middle light stripe broken into several spots. The under side is white or light gray.

The male palpi have the tibia and patella both very short. The process on the outer side of the tibia is as long as the body of the joint; it is narrow at the end where it divides into two points, the lower one longest. Fig. 6d, 6e, 6f. Pl. III. The tarsus is as wide as long. The bulb is ovate on the outer side and wide and slightly angular at the base. The tube starts in the middle of the inner side. The tarsus and tibia are covered above with long white or light gray hairs.

Found by N. B. Sanson along the Spray River near Banff.

Dendryphantes flavipedes, Peckham. *Attidæ* of North America, Trans. Wisconsin Acad., 1909.

The common *Dendryphantes* in August east of the Rocky Mountains at Banff, Jasper and Athabasca Landing, appears to be a

variety of *D. flavipedes*, Peckham. It is about one-fourth larger than the typical *flavipedes* of Eastern Canada and Maine and the females are marked in the same way. In the males there is greater contrast between the light and dark markings and the white stripes are more sharply defined. The first and second legs do not have the black stripes which are characteristic of Maine specimens. The western variety agrees, however, with the type in the three white stripes between the eyes and in the long fork of the palpal organ.

On the Atlantic coast as far south as New Jersey there is another variety of *D. flavipedes* in which the stripes of the front legs are wanting and all the legs of the male are banded as in the female. See Bulletin American Museum Nat. Hist., New York, Aug., 1913.

PLATE II

- 1 *Theridion zelotypum*, usual markings of abdomen. 1a marking of females from Jasper and Athabasca Landing.
- 2 *Theridion sexpunctatum*. Three females and one male from Vancouver, B. C. 2 markings of the usual pattern. 2a pale variety with all markings indistinct. 2b unusual variation with dark markings united into one spot. 2c unusual variation of a male.
- 3 *Tmeticus reticulatus*, head and palpi of male. 3a profile of head of male showing hairs between middle eyes. 3b markings of skin of under side of abdomen near front end.
- 4 *Tmeticus obtusus*, male palpi from above.
- 5 *Gongylidium tuberosum*, epigynum. 5a, 5b male palpus showing complicated form of tarsal hook.
- 6 *Gongylidium canaliculatum*, male palpus showing groove on edge of tarsus. 6a epigynum. 6b mandibles of female.
- 7 *Lophocarenum alpinum*, head and palpus of male from Sulphur Mountain, Banff.
- 8 *Lophocarenum erectum*, head and palpi of male. 8a left palpus of male showing process of the upper side.
- 9 *Lophocarenum dentipalpis*, side of head and palpus of male. 9a top of head and palpi of male.
- 10 *Bathyphantes arborea*, dorsal markings of female. 10a, 10b epigynum. 10c, 10d male palpus.
- 11 *Bathyphantes occidentalis*, dorsal markings of female. 11a male palpus.

PLATE II



